EFFECT OF MOODLE ENABLED BLENDED LEARNING ON MOTIVATION AND ACADEMIC ACHIEVEMENT IN SOCIAL SCIENCES OF SECONDARY LEVEL STUDENTS

A

SYNOPSIS

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Supervisor

Dr. Amit Gautam

Submitted by

Deepu Jadaun

DEPARTMENT OF PEDAGOGICAL SCIENCES, FACULTY OF EDUCATION

DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED UNIVERSITY)

DAYALBAGH, AGRA-282005

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INTRODUCTION

The Internet speedily entered the life of humankind in the 20th century. It took less than ten years to spread all over the world, including the developing countries. Information and Communications Technology (ICT) has changed the concept of education in this modern era. Today information is easily available to the students. Students pursuing higher studies are using technology extensively to attain their academic needs. The Internet has created virtual classrooms in the era of information. Spreading knowledge among students has immensely shifted the level of knowledge to greater heights. Internet tools like Email, social networks, chat groups and video transmission have connected the world like never before.

ICT is in fact one of the most important driving forces of growth and development. Recent generations of ICTs have given rise to new opportunities for sharing information, resources, and experiences, as well as providing networking opportunities with student peers, tutors, and the institution of higher education itself. Online technologies are beginning to be considered as potential teaching and learning tools both within the classroom and beyond to support and help students to achieve their learning goals.

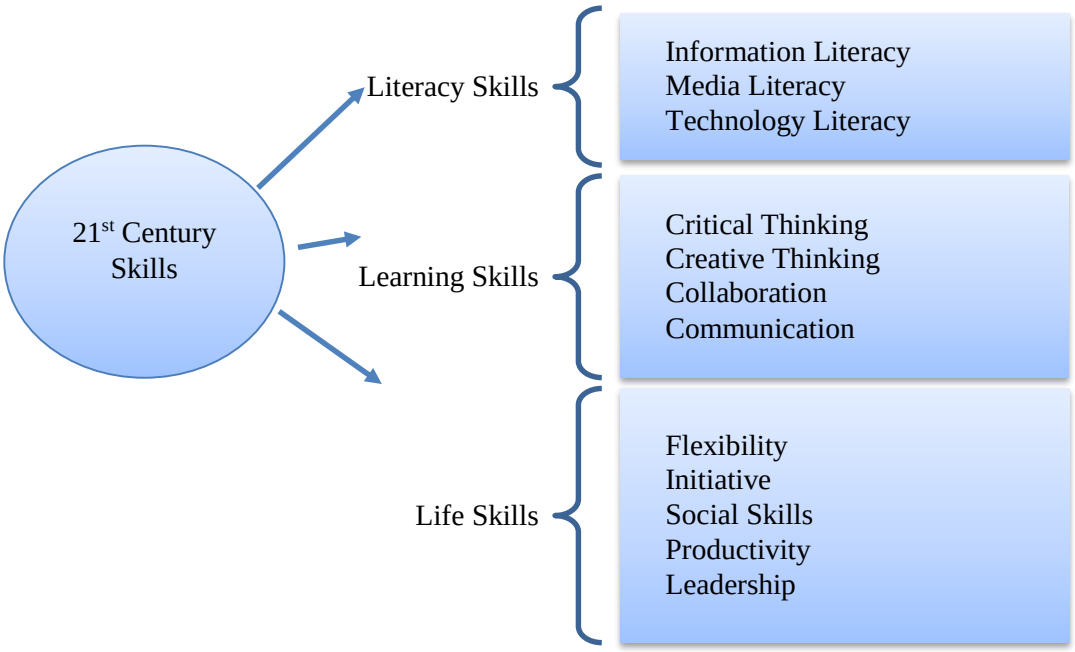

Fig 1: 21st Century Skills

The teaching and learning environment is incorporating a number of innovations in order to support various educational stakeholders and some of these changes involve the use of technology through blended learning. Despite the rapid development in technology, one cannot ignore the importance and advantages of face to face or traditional mode of learning.

E-Learning

The meaning of learning or knowledge has changed over time. With the learner centered approach there has been a shift in emphasis on learning rather than teaching. E-learning refers to the use of advanced information communication technology in the learning process, where advanced technology includes electronic media (Thomas & Graham, 2019). *E-learning* is mostly the simultaneous association of activities involving computers and interactive networks. Though, a computer need not be a central element of the activity or in providing learning content but it must play a significant role in the learning activity. It is a model imposed by the new scientific and technical changes taking place in the world largely because of the inability of traditional teaching strategies and teaching methods to keep pace with the changing role of both teachers as well as students (Harandi, 2015; Gorbi, 2013).

E-learning began around the 1980s as computer-based courses that were provided on stand-alone disks. In the late 1990s, such educational courses came to be hosted on internal networks, and they were later put on learning management systems (LMSs) in the late 1990s (Abdullah & Ward, 2016; Hubackova, 2015). E-learning now refers to anything that is offered, enabled, or mediated by electronic technology for the clear intention of learning. With the advent of smartphones, tablets and other devices, electronic learning has gained great popularity majorly due to increasing demand for education and also due to diverse social and economic standards of different countries (Sekhon & Hartley, 2014).

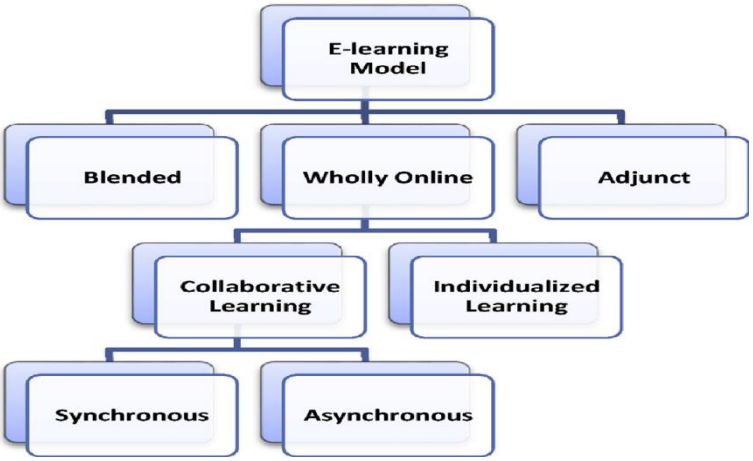

Fig 2: Model for using E-learning in education (Adapted from Algahtani, 2011).

E-learning has become an effective approach in learning due to the extensive use of web systems within the wider academic community. There are many benefits of learning supported by technology, or e-learning. It is highly flexible and allows learning to occur at a distance, at a time and pace appropriate to the needs of the students (Allan & Lawless, 2005; Kimathi & Zhang, 2019).

Blended Learning

The education sector has witnessed a lot of changes in the past fifty years and much of this growth is experienced due to the innovation in technology. Technology has provided a whole new different experience of teaching and learning with computers becoming an extremely valuable teaching tool. Educational settings are incorporating different ways and means to meet the learning needs of students. It is fast adopting innovative learning strategies in order to keep the pace with the development process. One of such e-learning types is the blended learning approach that gives the best of both worlds i.e. traditional classroom-based learning, which aids facilitator-based learning for maximum impact and technology-based e-learning for anytime, anywhere access to learning content.

Blended learning is a mixture of the various learning strategies and delivery methods that tends to optimize the learning experience of the user (Kurtus, 2004). It is an approach to education that integrates online educational materials and opportunities for interaction online with traditional place-based classroom methods (blended learning, Wikipedia).

Graham listed six different rationales for adopting blended learning:

(1) Pedagogical richness,

(2) Access to knowledge,

(3) Social interaction,

(4) Personal agency,

(5) Cost-effectiveness, and

(6) Ease of revision

Of these pedagogical richness, access to knowledge and cost effectiveness are considered most important (Graham, 2006). Mc Campell (2001) emphasized that blended learning can be an effective approach for those who will include online applications in their current curriculum for the first time and that some parts of the course could be transferred into the online environment without executing the course fully on an online basis.

Hijazi, Crowley, Smith & Shaffer (2006) came up with a comprehensive list of benefits of blended learning, these were:

- Meeting classroom goals.
- Better communication between the instructor and learner.
- Enable monitoring of student's involvement and advancement.
- Redesigning courses in order to easily meet educational outcomes.
- Effective utilization of class time.
- Improved computer literacy among students and instructors.
- Increased chances for conducting research.
- Course material available to learner 24*7.
- Utilizing World Wide Web resources to support and enhance classroom activities.
- Increased student participation.
- Personalized as well as collaborative learning.
- Provision of additional learning material and resources if needed.
- Useful for the instructor in reducing redundant tasks.
- Uniformed classes for multi-section offerings, flexible scheduling.
- Using interactive programs that produce quick feedback and advice for any remedial work.

LMS- Learning Management System

Learning Management System (LMS) integrates various features using educational technology and provides an enriched media for teaching-learning. They provide a platform for conveniently creating and distributing teaching materials, along with ease of communication and collaboration between different stakeholders (Goyal & Tambe, 2015). An LMS provides flexibility in terms of place and time by allowing advanced interactions between instructors and learners and ease of access to learning resources. It also works as a single window for all kinds and levels of interactions between students, teachers and administrators (Georgiakakis et.al, 2005). LMS is mostly used by educational institutes to manage their teaching-learning resources. However, it must be stressed that the success of an LMS is largely dependent on the acceptability of the tool by the faculty since they in turn influence the students to use such technology in their learning process (Al-Busaidi & Al-Shihi, 2010).

MOODLE (Learning Management System)

Web-based course management systems are swiftly becoming an integral part of the academic setting especially in higher education. There are several commercially available learning management systems in the market such as Blackboard, WebCT and Desire@Learn, and Chalkpad. Various open-source learning management systems are also available such as Moodle, Coursework, ATutor and Interact and out of all Moodle has been revealed as one of the most popular online learning management system (LMS) (Suleiman & Abdu, 2012; Chewe & Chitumbo, 2012).

MOODLE (Modular Object Oriented Dynamic Learning Environment) is an open-source LMS that can be freely downloaded from the web (www.moodle.org). Martin Dougiamas while working on a postgraduate degree at the Curtin University of Technology in Western Australia (Dougiamas & Taylor, 2003) developed Moodle from a social constructivist perspective. Moodle has some unique features that are not found elsewhere, including the ability to embed resources, enabling communications and activities centered on a topic of study. Moodle proves and supports different activities which are an integral part of the teaching learning process such as video lectures, assignments, forums, wikis, blogs, quizzes, tracking, etc. It can be used as a tool for delivering content to students and assess learning using assignments or quizzes and, more interestingly, it can be used to build rich collaborative learning communities.

Various modes of operation can be specified by the instructor ranging from weekly formats to topic-based to social formats using Moodle. It is free, in the sense that the user can modify it for custom use. MOODLE has built up an extensive user community that adapts or customizes the software for its own and for use by others. It is written in the PHP language. With its evolution since 1999, MOODLE has been widely accepted and adopted by the teachers and other instructors as it helps in creating online study materials of good quality.

The application of web-based course management platforms can be conducted in forms of blended learning and distance learning (Costello, 2013). Blended learning integrates traditional face-to-face education with computer-mediated delivery of educational material, as opposed to distance learning, which is mostly computer mediated. Compared with a traditional style of learning, web-based learning has been reported to have many advantages:

- Web-based learning provides flexibility while choosing the time and place to study. It can improve communication among students, as well as between students and the course instructors.
- It provides diversity in the means of student assessment and allows the course instructor to provide feedback to the students in a more efficient and timely manner.
- It is also beneficial in developing critical thinking through the use of multimedia presentations and additional resource material linked to the learning material (Sun et al., 2008).

Standard features of Moodle

Moodle assists the teachers in customizing the content of courses and also helps administrators to track the performance of the students. Instructors can customize the site as per institutional requirement.

1. Modern, easy to use interface: It is an easy to use interface which is signed to be responsive and accessible. The Moodle interface is easy to navigate on both desktop and mobile devices.

2. Personalized Dashboard: It displays current, past and future courses, along with tasks due.

3. Collaborative tools and activities: Work and learn together in forums, wikis, glossaries, database activities, and much more is possible with the help of Moodle.

4. All-in-one calendar: Moodle's calendar tool helps to keep a track of academic or company calendar, course deadlines, group meetings, and other personal events.

5. Convenient file management: One can easily drag and drop files from cloud storage services including MS OneDrive, Dropbox and Google Drive.

6. Simple and intuitive text editor: Formats text and conveniently adds media and images with an editor that works across all web browsers and devices.

7. Notifications: When enabled, users can receive automatic alerts on new assignments and deadlines, forum posts. They can also send private messages for one to one interaction.

8. Track progress: There is an option for tracking individual activities or resources at course level. Educators and learners can track their progress using Moodle.

9. Customizable site design and layout: It is easy to customize a Moodle theme with one's own logo or color schemes. Designing of layout thus becomes an easy task.

10. Secure authentication and mass enrolment: There are over 50 authentication and enrolment options to add and enroll users to Moodle site and courses.

Benefits of Moodle to various stakeholders

Table 1: Benefits of Moodle to various stakeholders

S.No	Students	Faculty	Administrators
1	Students can learn at their own pace (Competency based learning)	Create and manage courses that suits the students' needs	Administrators can enforce and monitor Outcome based education
2	The Content of the missed classes can be anytime accessed	Preparation of online material in 'four quadrant' approach	Keeping track of progress and proper scheduling is possible
3	Possibility of repeated learning brings about clarity in difficult or complex subjects	Division of course into different modules/Topics and their better scheduling	Integration of feedback system through LMS
4	Performance can be monitored throughout the learning process	Designing and scheduling of assignments and assessments to the students at their convenience	Academic audit can be done remotely and easily
5	No barrier of place and time in learning	Automatic evaluation of quiz and other day to day tests	Secured way of maintaining records
6	Learning can be enhanced with lecture, video, animation and simulation of software embedded together	The content available in this LMS can be useful and compatible for any batch.	Moodle server setup at institutional level is required or cloud subscription can be taken
7	Collaborative learning is possible	Group projects can be assigned	Training on Moodle and required platform is essential

Technology-enabled learning and Student's motivation

Motivation is the experience of desire or aversion if you want something, or want to avoid or escape something (motivation, Wikipedia). The researchers, educators and other stakeholders in the educational setting continue to look for factors that enhance student's motivation for learning. Research conducted in technology rich classroom environments have suggested that students who learn through technology are more engaged and invested in their learning. Technology generates an environment that supports synergy, collaborative, dynamic, and hands on learning experience to the learners. Compared to classrooms where traditional instructional methods were used, technology rich classrooms supported student sharing and developed an awareness of self-motivated learning (Li et al., 2010).

Wieking, (2016) suggests that careful and consistent integration of technology into the classroom can have a positive impact on student motivation for learning and also indicating that technology is both meaningful and valuable. It also highlighted that overuse of the same can lead to complacency of technology and boredom.

Though, other research yielded results that opened up different aspects of technology integration on motivation. Granito & Chernobilsky (2012), in their study indicated that not all students are motivated to learn using technology, and students who chose to complete projects using technology scored better than students who were forced to use technology. Again, this highlighted a significant factor that should be considered while integrating technology in the classroom environment.

Technology-enabled learning and Academic Achievement

Various stakeholders in the educational environment are constantly seeking new ways to measure student achievement in order to have a better understanding of what methods produce the most effective and impactful results. 21st century students are digital inhabitants. The rapid changes witnessed by the world of Information and Communication Technology have promoted educational experts and researchers to come up with radical changes in their educational planning and policies.

Rashid & Asghar (2016) point towards the complex interchange of relationships of the students' technology use with student engagement, self-directed learning and academic performance.

Many studies have been conducted around blended learning and its impact on students' achievement in educational institutions such as schools and universities. Thelal Iqab Oweis (2018) in his case study also revealed that there was a significant difference in achievement between the two groups, indicating that the experimental group performed better than the control group. Significant differences were also found in the respective groups' motivation to learn English.

Though, majorly the researches were conducted at higher education level some studies found that this approach to be useful for school students too. Chen & Jones (2007), points out that a wide range of research studies found that the blended learning approach has positive effects on student achievement, while other studies on the same lines revealed that blended courses integrating information and communication technologies (ICT) yielded no significant differences as there were both increase and decrease in grades/scores of students in different courses. However, the learners were broadly positive about TEL integration and considered the use of ICT in teaching and learning to be useful. Teachers who used TEL for developing their blended courses were eager to explore and adopt new active learning strategies (Shinde, 2019).

EMERGENCE AND JUSTIFICATION

The development of Information and Communication Technology had a significant impact on our lives especially by the end of the 20th century. Now, the internet is perceived as the most important source of information. Various educational stakeholders are continuously seeking new and innovative ways to enhance the learning process amid different dynamically changing learning environments. In today's emerging technological society, it stands to reason that the modern day classroom should reflect what is seen in society. With e-learning gaining importance, technology based learning has also become crucial. Moreover such an environment calls for implementing pedagogical innovations that are both beneficial for students-centered learning as well as helpful for teachers in better management. Technology facilitates learning and knowledge sharing in a great way. Technology assumes a major role in student learning as more and more institutions focus on technology integration as an initiative

to prepare students to be civically responsible, globally engaged and an active learner in the present times. Integration of technology in learning is believed to enhance the learning process.

The biggest challenge a teacher faces is how to make the teaching process more effective and innovative. For this we need to redefine classroom experiences and implement creative ways of teaching as the situation demands. Creative teaching requires interactive and engaging tools to stimulate creativity in the classrooms, as it excites young minds and captures their interest and stays as learned matter with them relatively for a longer time even after they leave the classrooms. Online technologies are the gateways for providing brainstorming.

Blended learning is one such innovative approach in the teaching and learning environment. It refers to learning involving multiple methods and approaches, commonly a mixture of class room and e-learning. It provides individuals the opportunity to experience the best of both worlds. Andrew, Taylorson,, Langille, Grange & Williams (2018) suggests that students enjoy learning through new technology, believing that it improves learning, and prepares them for future jobs. It also revealed that respondents preferred learning through a combination of traditional resources (e.g. books, paper) and digital technological tools (e.g. laptops, tablets). Sabah (2020) in his study provided that features of blended learning system are the most significant motivational antecedents in relation to influencing students' perceptions and involvements in the learning environment, while perceived behavioural control and subjective norms are the primary factors that drives students' continuous use of this system. Jane Kenney, Newcombe (2011), conducted an action research in order to document the adoption process of the blended approach and revealed certain ideas for motivating and helping faculty when there is limited funding, training, and support available. Yapici & Akbayin (2012) conducted a study to determine the high school students views on blended learning and revealed that the students were highly positive as the model provided them the opportunities to get prepared for the lessons, review them as many times as they wanted, remove the barriers of time and place and ease out their communication with students as well as teachers.

The researcher chose Moodle as a platform for online learning as Moodle is an e-learning tool that can offer simple and safe solutions to any institution. It has been around since 1999. It is used by tens of thousands of institutions for online learning worldwide. Moodle provides an upper hand to the

teachers or instructors as it allows organizing a wide variety of resources and activities in one place along with learner tracking and individual learning pathways. Moodle is open-source. This means that the code is freely available. As a result, it is free to download, and is customizable which means that the instructor does not require specialized technical skills for creating and delivering content through this mode. Moodle e-learning platform (MEP) enhances students' pre-class preparation, post-class participation and overall motivation for learning and that it is a user-friendly and affordable innovative teaching strategy that can be used to motivate, promote and sustain student interest in Self-directed learning (Amandu et al', 2013). It will be a great platform for students to raise their ideas without having worried about right or wrong. Connecting classroom learning with different interactive learning activities through integration of technology will make teaching learning more enriched. Classrooms are the most familiar learning spaces in our educational system, therefore an introduction of the concept of blended learning where the students have a chance to take advantage of both offline and online modes can prove to be beneficial. There is a quite an impressive strand of educational research on the impact of technology on the students' attitudes, habits and patterns of learning. Research shows that usefulness and ease of use are key dimensions of a student's attitudes towards technology use; thus it is believed that the students' attitudes are very much pragmatic and oriented towards effectiveness and flexibility between study, work and leisure (Edmunds et al., 2012). Technology is primarily accepted as a learning alternative complementing face-to-face encounters, not necessarily replacing them. Students' use of the Virtual Learning Environment is majorly driven by the flexibility, pragmatism and ease of use and does not tend to change towards their established patterns of learning (Păunescu, 2013). Moodle-based learning is highly valued for contributing to the improvement of students' speaking skills. Truong (2021) revealed that most participants in his study found the additional LMS practices useful for developing speaking skills, mainly grammatical competence, including grammar, vocabulary, and pronunciation. It also highlighted that while face to-face interaction still remains indispensable in improving speaking skills, it should be supplemented with Moodle-based LMS practices to better acquire speaking competence.

Edmunds et al, (2012) suggests that there is a need for thorough investigation of student's attitudes and their ways of interaction with technology in order to take maximum advantage in planning and

administering a learning environment. A qualitative study examined the role of teachers in fostering student engagement in blended learning, emphasized the importance of a well-structured and -paced course along with clear communication of how the course would unfold and corresponding expectations as the key factors in improving students engagement in blended learning (Heilporn G et al., 2021). Kintu & Zhu (2016) analyzed student's attitude towards blended learning and revealed that learners generally have positive attitudes towards aspects of blended learning.

Popovic, Popovic, Dragovic, & Cmiljanic, O (2018) in their study revealed that although the use of the web-based learning management systems was very well received by the students and course instructors, but, these tools should still be combined with traditional face-to-face teaching in order to derive more effective results. Nevertheless, one of the main concerns expressed by the instructors is that attendance of face-to-face lectures will decrease if the lecture notes are made readily available through web-based course management platforms (Seluakumaran et al., 2011). Bibhya Sharma, Ravneil Nand , Mohammed Naseem & Emmenual V. Reddy (2019) in their study analyzed the effectiveness of online presence on student performance in a blended course using frequency and duration as indicators and revealed that both frequency and duration have a statistically significant impact on the students' final performances. Though Chan (2011) revealed that switching from a traditional teaching model to a blended teaching model even after controlling various factors does not directly improve the student final performance, but improves the student final performance through in-depth in class activities.

Infact, in present times of COVID-19 pandemic, where physical contacts have been limited, Moodle platform will be an effective approach to deliver curriculum to students at different locations. Ajani (2021) ascertained that the Moodle LMS platform has many benefits in designing and presenting curriculum contents, as well as assessments of students by the academics.

After reviewing various related research topic these were the research questions that arouse in the mind of researcher:

1. What are the problems faced by the students, teachers and administrators out of the traditional system of education?

2. Can these problems be reduced or resolved to some extent through incorporation of technology in the already existing mode of education?
3. To what extent will the model of blended learning be helpful in achieving the desired results?
4. What will be the attitude of students towards the new developed mode of education?
5. What will be the effect of blended learning on students' motivation?
6. What will be the effect of blended learning on students' academic performance/achievement?

The need of the study is to find answers to the above questions and add to the body of research surrounding the effects of the blended learning approach (using Moodle) at secondary level on student's attitude, motivation and academic achievement. Therefore, this study differs from previous studies in the sense that it focuses on exploring the effect of modern teaching strategies using technology on the performance of ninth grade students. According to Piaget's theory, this age represents the fourth stage of cognitive development, formally denoted as Operational stage 12–15 years (Ahmad et al., 2016). At this stage, thinking becomes more sophisticated and advanced and therefore it's a very critical stage. Students can think about abstract and scientific concepts and can use logic to come up with creative solutions to problems, and they begin to develop skills like logical thought and deductive reasoning.

STATEMENT OF THE PROBLEM

"Effect of Moodle enabled Blended learning on Motivation and Academic achievement in Social Sciences of Secondary level students"

DEFINITION OF THE TERM USED IN THE STUDY

Motivation

According to Vance, "Motivation implies any emotion or desire which so conditions one's will that the individual is properly led into action."

In the present study, motivation refers to a student's desire to learn through Moodle-enabled blended learning at Secondary School level.

Academic achievement

Academic achievement refers to scores of the students achieved in tests conducted by the researcher before and after the intervention.

In the present study, academic achievement refers to the learning outcomes on incorporating Moodle-enabled blended learning at Secondary School level.

Moodle

Modular Object Oriented Dynamic Learning Environment (MOODLE) is a web based learning management system widely used with free and open source license. It is the open-source LMS used in the present study.

Blended Learning

Blended learning is a learning strategy that integrates various models of traditional and distance learning and uses multiple forms of technology. In the present study, Moodle enabled blended learning refers to applying the model of blended learning (face-to-face as well as online learning) at Secondary School level.

Secondary School level

Secondary School Level includes students of classes 9^{th} and 10^{th}. In the present study, students of class 9^{th} are taken as samples.

OBJECTIVES OF THE STUDY

The objectives of the present study are as follows:

1. To make a content analysis of class IX Social Science textbook to develop learning material for blended learning.
2. To develop interactive learning material based on Moodle enabled blended learning in social sciences for Secondary School Students.
3. To study the effectiveness of Moodle enabled blended learning on motivation of Secondary School Students.
4. To study the effectiveness of Moodle enabled blended learning on academic achievement of Secondary School Students.
5. To identify the issues and changes during the implementation of Moodle enabled blended learning among male and female Secondary level students.

HYPOTHESES

The hypotheses of the present study are as follows:

H_{01} There will be a significant difference in mean gain motivation score of the students taught through Moodle enabled blended learning and traditional method of teaching.

H_{02} There will be a significant difference in mean gain achievement score of the students taught through Moodle enabled blended learning and traditional method of teaching.

VARIABLES OF THE STUDY

The variables related to present study has been classified as:

Independent variable: Moodle enabled blended learning

Dependent variable: 1. Motivation

2. Academic achievement

Controlled variables: 1. Technological availability/accessibility

2. Age

3. Subject and content

DELIMITATIONS

The study will be delimited in the following ways:

1. This study will be limited to Agra city only.
2. The study will be applied to students at secondary school level.
3. It will be limited to Social Science courses only.
4. The selection of school will be done through purposive sampling.

METHODS OF THE STUDY

This study follows a pre-test and post-test experimental design to examine the effect of Moodle enabled blended learning on student's performance at Secondary School Level.

SAMPLE OF THE STUDY

For this study Secondary school students will be treated as samples. Purposive sampling will be used for selection of school.

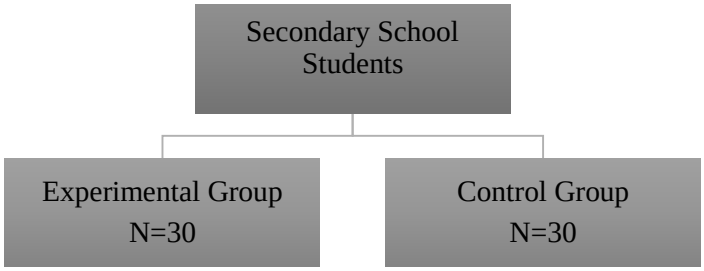

Fig 3 : Sample of the study

In all 60 students studying Social Science at secondary level will be selected randomly and placed in blended and Traditional modes of instruction (N = 30 in each group).

PROCEDURE AND DESIGN OF THE STUDY

The procedure and design of the present research work will be as follows:

Procedure of the study

Procedure of the study will be based on the following steps:

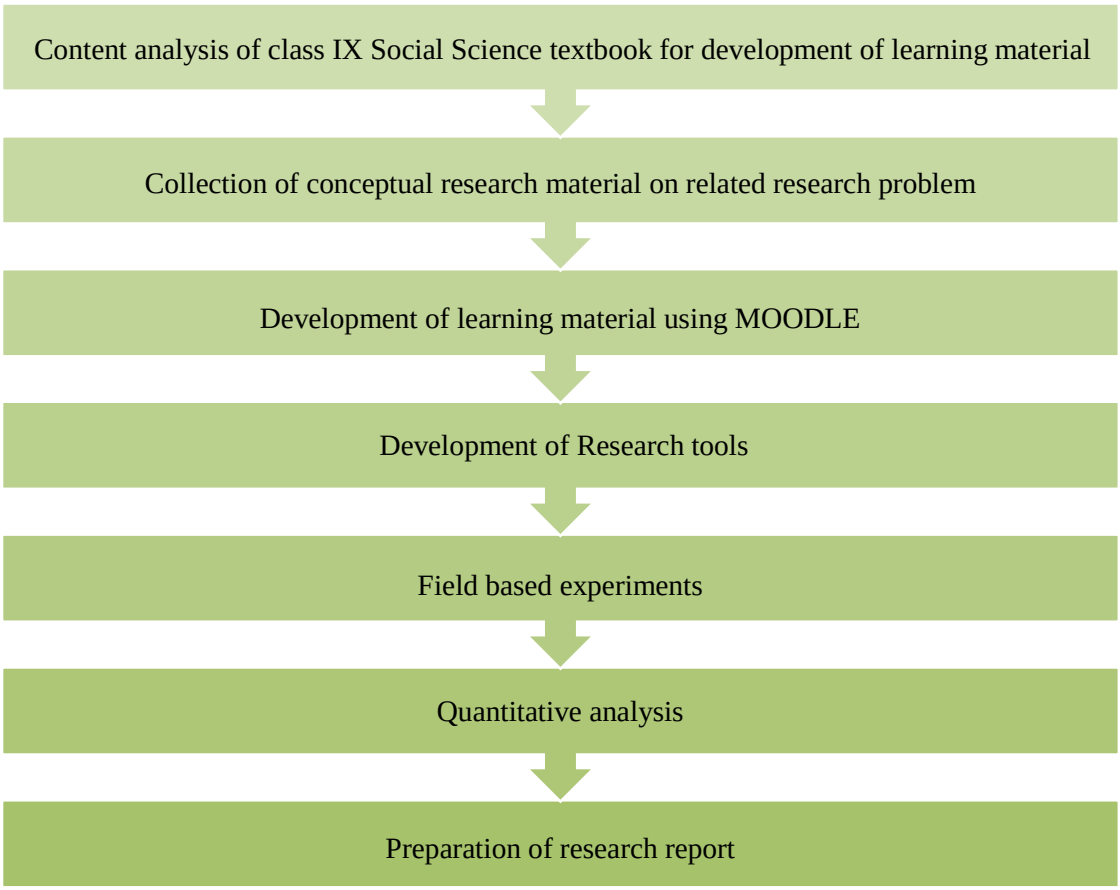
Content analysis of class IX Social Science textbook for development of learning material
Collection of conceptual research material on related research problem
Development of learning material using MOODLE
Development of Research tools
Field based experiments
Quantitative analysis
Preparation of research report

Fig 4 : Procedure of the study

Research design of the study

Table 2 : Design of the study

PHASE I- Development of learning material using Moodle							
PHASE II –Implementation of developed learning material							
EXPERIMENTAL GROUP				**CONTROL GROUP**			
Sample	**Treatment**	**Duration**	**Research tool**	**Sample**	**Treatment**	**Duration**	**Research Tool**
Secondary school students (N=30)	Orientation of Moodle enabled blended learning	10 days(1 hour per day)	Achievement test	Secondary school students (N=30)	Orientation of Moodle enabled blended learning	10 days(1 hour per day)	Achievement test
PHASE III- Assessment phase							
EXPERIMENTAL GROUP				**CONTROL GROUP**			
Sample	**Treatment**	**Duration**	**Research tool**	**Sample**	**Treatment**	**Duration**	**Research Tool**
Secondary school students (N=30)	Implementation of developed learning material based on Moodle-enabled blended learning	20 days (1 hour per day)	Achievement test towards Moodle enabled blended learning Motivation scale towards Moodle enabled blended learning Issues and challenges Rating Scale	Secondary school students (N=30)	Teaching students through traditional approach	20 days (1 hour per day)	Achievement test towards Moodle enabled blended learning Motivation scale towards Moodle enabled blended learning Issues and challenges Rating Scale

ADMINISTRATION OF TOOLS

1. Motivation scale towards Moodle enabled blended learning (self-constructed)
2. Academic Achievement Test towards Moodle enabled blended learning (Pre-instruction content knowledge test and Post-instruction learning outcomes measure designed by the researcher)
3. Rating Scale towards the issues and challenges in the implementation of Moodle enabled blended learning (self-constructed)

STATISTICAL TECHNIQUES

The data will be analyzed in light of objectives of the study. Certain Descriptive and Inferential statistics will be used in order to describe the nature and distribution of the scores obtained on various tests. This will include following method of analysis:

1. Mean: Mean value will be calculated for the distribution of motivation scores and academic performance scores.

2. Standard Deviation: It will be calculated to study the variation in the scores.

3. t-Test: Inferential Statistical techniques such as t-test will be employed for testing significance of the difference between the experimental and control group on the basis of pre-test, post-test scores.

SIGNIFICANCE OF THE STUDY

Today, the use of technology to teach and learn is unavoidable for both teachers and students. Therefore it's high time that teachers should consider this trend and get prepared technically and pedagogically which will not only be helpful for them but also benefit the students. With the growth of the Internet and other important technologies, web based course delivery has become a useful option for supplementing educational opportunities to students.

The importance of blended learning has increased in recent years due to its advantages. The American Society for Education and Development defined blended learning as one of the top ten trends in the knowledge delivery industry (Rooney, 2003; cited by Graham, 2006). Shibley (2009) suggests that blended learning can create ways for students to learn before class, during class and after class. Blended learning approach will provide the opportunities to students to experience the best of both worlds i.e. face to face interaction in offline mode as well as technological skills through online mode. The result of this study will be significant to different educational stakeholders-students, teachers, administrators and parents.

Importance to Students

MOODLE provides a variety of resources and activities like forums, assignments, quiz, glossary and chat that help students in enhancing their learning process. The students have the opportunity to take benefits of both online as well as offline mode of education through the blended learning approach. They can benefit from this as they are not deprived of the human touch that prevails in complete

online education nor do they suffer from technological incompetence which prevails in complete traditional mode of education. The students can learn at their own pace, at any time and at anyplace. Personalized as well as collaborative learning is possible in this learning approach.

The students or learner after registering themselves on various courses, can learn from the learning material and various other resources provided by the LMS, undergo tests and practicals, complete assignments, etc. LMS also provides learners with the ability to use interactive features such as threaded discussions, audio/video conferencing and discussion forums. Moodle as a LMS, thus may prove to be beneficial to improve students' engagement in learning.

Importance to Teachers

Moodle provides teachers or instructors with an option to deliver content, monitor student participation, and assess student performance. The Instructor can easily organize or plan a course based on prescribed syllabus and establish a course calendar to monitor student progress. It provides course designers with means to create quality course content by providing some easy content creation facilities. It lets teachers provide and share documents, assignments, quizzes, forums, chats, etc. with students in a user friendly environment. With all this the teacher can efficiently deliver knowledge to their students.

Importance to Administrators

Educational administrators can enforce and monitor outcome based education with the help of Moodle. The process of keeping track records of progress and scheduling of different activities become an easy task. The administrators can audit the academic reports easily and maintenance of all records can be securely done.

Importance to Parents

Moodle enabled blended learning can help the parents too, as they can keep a track of their child’s academic progress. It may provide greater satisfaction to the parents as they can now witness their child involved in learning outside of the classroom. It may also provide them with a greater sense of flexibility.

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